STANDARD FORM NO. 64

CONFIDENTIAL

Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files - Contract 146-19255-9

DATE: 21 October 1959

FROM : [redacted]

DOC 8 ... 820580 ... 010956
ORIG COMP 033 ... 56 ... 02
ORIG CLASS S ... S ... C
JUST 22 NEXT REV 2010 AUTH: HR 70-2

File Contract 146 [redacted]

SUBJECT: Trip Report - High Speed Electrostatic Printer

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1. On 1 October 1959 a visit was made to [redacted] to discuss Contract 146-19255-9. Persons contacted on this visit were:

[redacted]

[redacted] represent the contract side of the house and [redacted] are the project engineers.

2. The discussion [redacted] was centered around the specifications for the printer. Several problems have arisen in regards to our requirements for this printer, of which some of the solutions should have been evident to [redacted] engineers. The printer in general will have the following specifications. It will accept 5 bit parallel code up to 300 characters per second. The input signals required for the Burroughs printer are 0 and -12 volts. The power requirements have been set at 105 to 125 volts and 210 to 250 volts. Both voltages will work at 50 or 60 cycles ±5%.

3. The printer was originally supposed to accept standard teletype code and be capable of single and double spacing. [redacted] can accept standard teletype code at 1600 wpm, which we required, but only with single spacing. The highest speed that can be reached with double spacing is 900 wpm. The [redacted] engineers will look into the double spacing problem and see if it cannot be solved. It seems that the [redacted] printer cannot accept normal teletype functions at the end of a line, i.e., the carriage return and line feed functions. It will be necessary for the printer to recognize the carriage return and line feed at the same time. Carriage return is made automatically by electronic means on the [redacted] printer. Twenty milliseconds is required for the printer to space to the next line. This means that approximately three of our teletype characters (6.25 ms/character) are required to give them this 20 milliseconds. It will be possible for the printer to recognize a carriage return and line feed as separate functions when these functions are sent other than at the end of a line.

4. The delivery of the printer may be slightly later than scheduled. The original delivery date was 1 April 1960. This is due to the fact that the Air Force may have greater priority than we do. It appears that it may be worthwhile to push for greater priority on our part. The

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SUBJECT: Trip Report - High Speed Electrostatic Printer

Air Force is presently conducting severe tests on the printer. This first article type of testing is naturally worthwhile for us so that we may get a reliable printer.

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Attachment: Review of [redacted] Specification Requirements 25X1

CC: ~~R+D~~ Subject File
R+D Lab
Monthly (2)
EP Chrono

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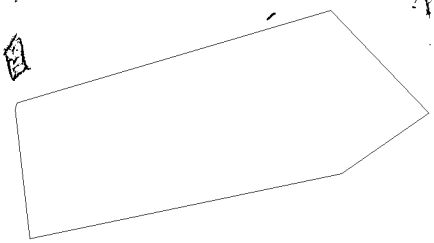

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Meeting - October 1, 1959 - [redacted] Program 25X1

Purpose - To review [redacted] Specification Requirements; Spec. MIL-T-9770 and Exhibit A, in order to resolve any question we have at this time. 25X1

Attendees - [redacted] 25X1

The Specification requirements wherein clarification was needed were taken in the following sequence and the specification would be revised, where applicable, as indicated:

3.3.1 Operation

The Government advised that the equipment should be able to accept parallel code in lieu of serial.

It was mutually agreed that paragraph 3.3.1 should be rewritten as follows:

> The teleprinter shall accept 5-bit parallel code at rates up to 300 characters per second minimum. This parallel code shall be decoded to energize one of the alphanumeric symbol or punctuation character lines. A high speed electronic character switch shall determine the sequential operation of 72 printing heads so that the printing heads shall operate serially, thereby printing across the page. The printing heads shall deposit electrostatic charges on white plastic coated paper to form the received character. The paper shall move through powdered ink and the ink shall be fixed by a heated roller.

In view of the change to a parallel code, all reference in the specification applicable to serial code will not be required.

3.3.2. Capability for Future Modification

3.3.2.1 (d)

Change Standard Teletype Code (ASP-125) to (ASC-127)

3.3.2.1 (d)(1) and (2) of Exhibit A provides for Carriage Return and Line Feed on demand at any point in the print head and single and double line spacing.

Considerable discussion centered around this area as Spec. MIL-T-9770 is based on the line feed first and then multiple carriage return, while Exhibit "A" specifies 2 carriage returns and 1 line feed. It was apparent

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both the Government and [redacted] had overlooked this discrepancy in the executed contract. The Government uses standard Teletype sending equipment, whereby the carriage returns are first and then the line feed.

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We agreed to furnish the unit to accept 2 carriage returns and 1 line feed, up to approximately 1600, wpm, using single spacing; using the same return and feed for double spacing the unit could print approximately 900 wpm, although in both cases a line feed will always follow the first carriage return.

Any speeds faster than 1600 or 900 will require a storage unit. Both parties agreed to investigate this area further for a possible solution.

3.4.1 Power Input

a. Change 105 volts to 250 volts

to

115 volts ± 10% or 230 volts ± 10%

b. Add a tolerance of ± 05% to 50 cps and 60 cps

3.4.2 Input Data

The Government wants:

Mark +10 volts

Space - 23 volts

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To accomplish this will require redesign. [redacted] to evaluate this requirement. [redacted] would like 0 volt and -12 volt; the Government is to check their data requirement and advise.

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3.4.2.1 b. Change Type D Teletype code to Teletype Code (ACP-127)

3.4.2.2 a. and b. Delete and substitute in lieu thereof

The teleprinter shall recognize and print characters of Teletype Code (ACP-127) Type A, ~~including the following changes:~~ Standard ITY TYPE D keyboard

a. Plus sign +, in lieu of Bell sign B

b. Minus sign, -, in lieu of Dash -

3.5.2 Warm up period of one-half hour.

We wanted to bring to the Government's attention that this period was to be considered as an allowable period whereby the teleprinter remained in the same area and was not subject to extreme changes in temperature or humidity; it being more or less a precautionary measure prior to putting the unit into operation.

Spare Parts

[redacted] would like a listing of spare parts that are considered unusual to the unit. We promised to furnish such a list by 12/1/59.

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Installation and Operation Assistance

[redacted] would like [redacted] to consider, after delivery, to assist in the installation and operation of the unit, period of time indefinite at present. We agreed that we would be agreeable to provide this service and same could be negotiated at a later date based on more definite

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requirements and information regarding the operational phase of the unit. Mr. Vogel was informed briefly as to our capability along this type of service in conjunction with our Military Field Service Division.

Operation and Maintenance Training.

[redacted] would like to make arrangements, prior to delivery, to have two electrical technicians stationed here for a period of one to two weeks to receive training instructions in the operation and maintenance of the unit. We advised we would be agreeable to render this service and enter into a contract for same.

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Delivery

We advised [redacted] our production program had slipped back two months, resulting from slippage of the 1st article being made by [redacted] together with the additional 1st Article Testing requirements required by the Air Force. Although our program was two months behind schedule, every effort was being expended to deliver their unit in May, 1960, in lieu of April, 1960.

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[redacted] expressed an urgent need for delivery of a unit immediately, with the possibility of borrowing a unit. We advised we could not at this date foresee any improvement in the delivery of their unit and the possibility of borrowing a unit from another government agency was very remote. [redacted] mentioned a priority could possibly be issued covering their unit.

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Testing

So that a misunderstanding regarding Spec. MIL-T-9779 would not present an obstacle at time of delivery, it was pointed out to [redacted] that the following paragraphs requirements would not be applicable, as these requirements were being performed by the Air Force for the First Article acceptance and we would furnish a copy of the First Article acceptance test report:

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1. 4.4.6 Life Test
2. 4.5 First Article Test
3. 4.4.3 Environmental Tests

[redacted]

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Contract Representative

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cc: [redacted]

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